

Remarks

The present invention is directed to a truing tool that is characterized by an essentially cylindrical gear wheel having an abrasive coating on the surface that is active during truing to profile the flanks of the grinding worm, and an essentially cylindrical roll having an abrasive coating on the circumferential surface to adapt the diameter of the addendum circle of the grinding worm, with the gear wheel and the roll being axial- and torsion-resistantly connectable to the work piece spindle of the machine.

The current status of the claims is as follows:

1. Claims 1-3 are rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over Stollberg (US 5,857,896) in view of Scacchi (US 6,234,880).

The rejection of claims 1-3 as anticipated by, or in the alternative, as obvious over Stollberg in view of Scacchi is respectfully traversed and reconsideration is respectfully requested.

Stollberg teaches a combination gear grinding and honing machine wherein a gear 26 is positioned on a spindle along with two gear-shaped toothed dressing wheels 27, 28 axially spaced with respect to the workpiece as shown in Figure 2. Dressing wheel 28 is a rough profiling (roughing) dressing wheel and dressing wheel 27 is a fine profiling (smoothing) dressing wheel (see column 2, lines 17-38).

The dressing wheels 27, 28 of Stollberg are both gear-shaped toothed tools which dress the flank surfaces of the grinding worm. There is no disclosure of material removal from the top surface of the thread of the grinding worm in order to modify the diameter of the grinding worm. Applicant respectfully but emphatically directs the Examiner's attention to the fact that dressing wheel 28 is not a cylindrical roll and there is no disclosure of it adapting the diameter of the grinding wheel as

alleged by the Examiner. The dressing wheel 28 is a toothed tool in the form of a gear, the teeth of which comprise hard particles for fine profiling (finish dressing) the profile surfaces of the grinding thread. The Examiner states that the dressing wheel 28 of Stollberg is in the form of a gear ("another gear wheel 28 ..."), hence it is recognized by the Examiner that dressing wheel 28 is not a "roll" as is claimed in claim 1. A dressing wheel or gear is not a roll.

Furthermore, the Examiner states Stollberg teaches "an essentially cylindrical roll 28 having an abrasive coating on its circumferential surface to adapt the diameter of the addendum circle of the grinding worm". However, the circumferential (i.e. outer) surface of dressing wheel 28 (i.e. the tops of the teeth) would be positioned proximate to the root portion of the grinding wheel thread upon meshing of the dressing wheel 28 with the worm 10. Hence, there would not even be any contact between the circumferential surface of the dressing wheel 28 and the outer diameter (i.e. the top of the grinding thread) of the grinding worm 10. Such top-to-top type of contact is usually considered to be a "crash".

Thus, the Examiner's interpretation of Stollberg is, respectfully, incorrect. No dressing roll is disclosed nor is there any disclosure of controlling the diameter of the grinding wheel. Additionally, Stolberg requires two dressing wheels while only one wheel is claimed in the present invention. The arrangement of Stollberg alone fails to anticipate the claimed invention as discussed above since no dressing roll is disclosed nor is there any disclosure of controlling the diameter of the grinding wheel.

Scacchi teaches a dressing profile disc 31 and a radius forming roll 32. The disc 31 is positioned on a dressing device 10 capable of positioning the disc against one side profile or the other of a grinding worm (Figure 2). The roll 32 is utilized to dress the cylindrical circumference 45 and the thread tip radii 46, 47 (Figures 2a and 2b).

The arrangement of Scacchi is not located on a workpiece spindle nor is the dressing tool in the form of a cylindrical gear, both limitations being found in claim 1.

Furthermore, the dressing disc of Scacchi is a form disc in that the disc is plunged against the side profile of a grinding thread (Figure 2) to form the desired profile geometry while in the claimed invention, the cylindrical gear wheel is utilized in a generation process for dressing (arranged on the same workpiece spindle as a gear for continuous generation grinding).

The teaching of Scacchi cannot be reasonably combined with Stollberg. Stollberg discloses gear shaped tools while Scacchi discloses a form disc. Such dressing tools are utilized in different types of dressing processes and are not interchangeable. Stollberg disclosed the pair of dressing wheels mounted to a workpiece spindle while the dressing disc of Scacchi is attached to a multi-axis device 10. Scacchi fails to provide the deficiencies noted above with respect to Stollberg.

Conclusion

Stollberg fails to anticipate the claimed invention. The inclusion of Scacchi also fails to provide a sufficient teaching to result in the claimed invention being obvious. The rejection of claims 1-3 as anticipated by, or in the alternative, as obvious over Stollberg in view of Scacchi is improper and withdrawal is respectfully requested. A prompt Notice of Allowance is earnestly solicited.

If the Examiner has any questions, she is cordially invited to telephone Applicant's Agent at (585) 461-8071. Should any additional fees be required in order that this paper, or any attachments hereto, be deemed a complete and timely response, the Commissioner is hereby authorized to charge Deposit Account No. 07-1425 for any such fees.

Respectfully submitted,

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Amendments to the Drawings

None